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ABSTRACT

This study of the school-related factors that influence the persistence or withdrawal of Hispanic American high school students did not validate Tinto's model of dropout behavior. Tinto's model (1975) is based on a sequence of the following variable clusters: (1) background characteristics; (2) external factors; (3) academic integration; (4) social integration; and (5) commitment to school. An adaptation of Tinto's model was applied to a sample of high school student volunteers in Chicago (Illinois) that included 98 Puerto Rican, 189 Mexican, and 6 other Hispanic American students. The following findings are discussed: (1) school-related variables did not predict persistence/withdrawal behavior for the total sample, or for the male, female, Mexican, or Puerto Rican subgroups; (2) school-related variables influenced the school commitment of Mexican males; (3) external factors influenced the persistence/withdrawal for the total sample and for males and females separately; (4) school commitment variables positively influenced persistence for males but not for females; (5) Puerto Rican students appeared to be positively influenced by pre-high school achievement and negatively influenced by external factors, whereas Mexican students were more likely to be positively influenced by personal commitment; and (6) patterns of persistence behavior varied by Hispanic subgroup and by sex. The following materials are appended: (1) a list of 65 references; (2) seven tables of statistical data; (3) one figure; and (4) a categorization of the survey and data items. (FMW)

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AN ANALYSIS OF THE PERSISTENCE/DROPOUT BEHAVIOR OF HISPANIC STUDENTS IN A CHICAGO PUBLIC HIGH SCHOOL

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Paper presented at the annual meeting of the American Educational Research Association, Chicago, April 1991

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INTRODUCTION

Background

Recently, national attention has focused on reforms in education while a major concern of the Chicago Hispanic communities has been the high dropout rate among Hispanic students in the Chicago Public Schools. Recent research (Hamilton, 1986; Hodgkinson, 1985; McDill, Natriello & Pallas, 1985) indicates that these are potentially competing issues. These researchers suggest that school reforms directed at challenging content, time spent in school and achievement standards may have both positive and negative effects on the rentention of students until graduation. Nationally the rate of retention until graduation has declined from 76 percent in 1980 to 73 percent in 1985 and Hodgkinson (1985) anticipates that state reform programs will cause a further decline. Raising standards may challenge students to work harder and working harder may lead to greater achievement. However, unless additional support is provided to students the reforms may produce one of two negative results: "an improvement in aggregate measures of student performance chiefly attributable to the increasing selectivity of American schools (i.e., an increase in the dropout rate), or a relaxation of the standards as they are implemented by educators who must confront first-hand the negative consequences of such reforms" (McDill et al., 1985, p.29).

The Hispanic population is the fastest growing minority population in the United States (Usdan, 1984). Based on census figures the Hispanic population was 9.1 million living on the mainland in 1970. The 1980 census yielded a figure of 14.6 million Hispanics, representing an increase of 61 percent from 1970 while the total United States population grew by only 11 percent, from 203 million in 1970 to 226 million in 1980 (Ford Foundation, 1984). In 1985, the Census Bureau reported a figure of 16.9 million Hispanics in the U.S. and represents an increase of about 16 percent over the 1980 census figure (Arias, 1986). This represents a growth that is almost five times that of the total population. More recently the Census Bureau estimated the Hispanic population had increased 30 percent since 1980. The Census Bureau reports that as of March, 1987 the Hispanic population was 18.8 million with a growth rate that continues to be five times as fast as the rest of the population. It is estimated that Hispanics represent 8 percent of our population compared to 6.5 percent in 1980 ("Hispanic Population", 1987). Consequently, the Hispanic population is estimated to range from 25 to 30 million by the year 2000 or 11 percent of the total population (Hispanic Policy Development Project (HPDP) (1984).

The Hispanics are also a young population. Almost one third of the Hispanic population is under the age of fifteen years compared to one fifth of the general population. Only 4.9 percent are 65 years or older, compared to 11.3 percent of the general population. Puerto Ricans and Mexican

Americans constitute the youngest Hispanic groups with a median age of twenty-two (Ford Foundation, 1984). The average Black is 25 years old and the average White is 31 years old (Hodgkinson, 1985). The Hispanic birthrate is 75 percent higher than the rest of the population (Usdan, 1984). Because many Hispanic women are now entering their childbearing years, the Hispanic population will continue to be young for some time, while the rest of the U. S. population will continue to age (Ford Foundation, 1984). This large Hispanic population demands that we focus our attention on issues of employment and educational attainment related to them.

Because of the aforementioned growth factors and the educational attainment data on Hispanics, the Hispanic community and the educational leadership must concern themselves with the educational policies and practices which affect our Hispanic population. The National Commission on Secondary Schooling for Hispanics was created by the Hispanic Policy Development Project (HPDP) to determine why so many inner-city public high schools are not more successful in educating Hispanics. One of the HPDP's findings is the alarmingly high dropout rates among Hispanics in urban high schools; Chicago, 70 percent; Los Angeles, 50 percent; Miami, 32 percent; New York, 80 percent; and San Antonio, 23 percent. The data the Commission compiled on sophomore Hispanic dropouts in 1980 shows that the major reason for dropping out by both males and females was due to "poor grades". The second major reason for males was "to work" and for females was "marriage". They recommend state and national monitoring of the status of Hispanic secondary education to evaluate how well the educational needs of students are being met and that a standard dropout definition and methodology for calculating it be adopted.

Reasons for Dropping Out

The reasons youths drop out of high school are varied and often interrelated and generally fall into three major categories: those related to school experiences, those related to family conditions and those related to economic factors (Ekstrom, Goertz, Pollack & Rock, 1986; Fine, 1986; McDill et al., 1985; United States General Accounting Office, 1986). In an analysis of data from the High School and Beyond study initiated by the National Center for Education Statistics, Ekstrom et al. (1986) provide background characteristics and self-reported reasons for dropping out. Two background characteristics which they found to be strongly related to dropping out are socioeconomic status (SES) and race/ethnicity. The United States General Accounting Office (USGAO) (1986) report, School Dropouts: The Extent and Nature of the Problem confirmed this finding. Rumberger (1983) also found that Hispanics dropout more often than blacks and blacks more than whites. Rumberger used survey data from a national sample of young men and women between the ages of 18 to 21 years who were not in school. The most frequent self-reported reasons for dropping out of

school for the total group in a national sample of 30,000 high school sophomores were poor grades (33%) and not liking school (33%) (Ekstrom et al, 1986). The USGAO (1986) report found being behind in grade level to be one of the most powerful predictors for dropping out. Male dropouts are twice as likely as female dropouts to leave high school for economic-related reasons. Female dropouts are more likely than males to leave for personal/family related reasons such as marriage (31 percent of the dropouts) and pregnancy (23 percent of the dropouts) (Ekstrom et al., 1986). The data suggest that there is no single, simple cause to the dropout problem and, therefore, there is no single, simple school program or policy solution to the dropout problem. In its review of the literature the USGAO (1986) acknowledged that it is generally not known "what works" to prevent youth from dropping out of school.

The Michigan State Board of Education (MSBE) (1986) reviewed 58 dropout studies related to Hispanic students and listed 38 factors which were found to be significantly related to high school dropouts. The research studies reviewed by MSBE also revealed 21 factors which are significantly related to Hispanic students remaining in school. The data gathered from the research studies and from a research survey conducted with high school dropouts, graduates and their parents was synthesized and a set of 18 factors related to dropping out and a set of 10 factors related to retention were finalized. The most significant factors in preventing school dropout were parental encouragement and support of students as well as their participation in school affairs, and positive communication and relations with teachers. Additionally, a healthy self-concept and self-perceived cognitive ability were important student variables contributing to educational success. Conversely, if a student feels alienated from school, does not receive adequate parental support and has low self-esteem, he or she is likely to drop out. They found that a pattern of grade repetition, underachievement, absenteeism, low SES and non-English speaking background contribute to dropping out from high school.

Hispanic and Local Studies on Dropping Out

A review of dropout studies reveals that the Hispanic dropout problem that is currently dominating the news media and mobilizing education reform groups and political actors in and out of public office is not new. Heller (1966) touched upon the issue in her sociological study Mexican American Youth: Forgotten Youth at the Crossroads and lamented the fragments of information on dropout from studies directed at other problems despite a dropout rate among southwest Mexican Americans of 33 percent compared to 16 percent for Anglo Americans (based on a 1960 census).

A review of the literature by Steinberg, Blinde and Chan (1984) determined that certain factors were related to dropping out by language minority youth (students who come from a non-English language background). Socioeconomic

status (SES) is a strong predictor of dropping out. However, when SES is held constant, Hispanic youngsters dropout at a rate higher than youngsters of other racial/ethnic backgrounds. Secondly, language minority youth drop out of school at a rate greater than youngsters whose first language is English. Low school achievement did not appear to be due to cognitive deficiencies, however there was evidence that parental pressure to speak English is associated with succeeding in school. Generally, they concluded that not having English as a primary language impedes a youngsters academic progress in schools in which English is the language of instruction.

A recent study by Rumberger (1983) on dropping out of high school by white, black and Hispanic students confirmed previous studies that found that family background is a powerful predictor of dropout behavior for youngsters regardless of racial group and for both males and females. In this study, based on a national sample, almost 40 percent of Hispanic males dropped out for economic reasons while 30 percent of Hispanic females cited pregnancy and marriage as the primary reasons for leaving school.

Locally the issue of Hispanic dropouts initially surfaced in 1971 when Lucas (1971) called attention to what he considered a crisis situation in his study of Puerto Rican dropouts. His research revealed a cohort dropout rate of 71 percent among Puerto Rican youngsters in Chicago. During the period in which Lucas conducted his research (1965-69), Wells High School and Tuley High School, whose students were included in his study, were reporting a dropout rate of 15 percent (Chicago Board of Education (CBE), 1974). However this was a yearly dropout rate. The estimated cohort dropout rate based on CBE (1974) figures would have been about 60 percent. The citywide annual dropout rate reported for the Chicago Public Schools (CPS) during 1971-72 was 8.7 percent (CBE, 1976). In contrast to Steinberg et al. (1984), Lucas found that English language proficiency was greater among the dropouts than the senior year students still in school. A strong and confident knowledge of Spanish was positively related to students persistence. In his study the major self-reported reasons given for leaving school were, quitting to go to work (34.3%), leaving due to personal problems (26.4%), and being "eased out" of school (12.1%).

A report issued by the Chicago Board of Education (CBE) (1976) for the years 1967 to 1975 limited its study to only black and white students although there was a sizeable and growing Hispanic student population at the time of the study. This study is significant in its neglect in assessing the Hispanic dropout rate. The report contains annual dropout rates and states that the dropout rate for 1974-75 was the lowest in nine years (8.7%). Information for this study was gathered through a survey form mailed to a sample of 1,392 dropouts (10% of total dropouts) and should be treated cautiously as the survey was completed by 343 or only 24.6 percent of the total sample (CBE, 1976). In a priority

ranking of the responses to the question "Why did you drop out of school?", of the sixteen reasons given, the first reason given was failing grades, the second, lack of teacher concern; and third, family pressure. Again the major reason cited by this Chicago study and previously by the state of Illinois study is related to academic performance.

The issue regarding Hispanic dropouts in Chicago lay publicly dormant for a decade and was resurrected in the '80's by Kyle (1984) who studied the 1979 freshmen cohort groups in two predominantly Hispanic high schools. In his research he sought to determine the magnitude of the problem and identify the reasons for the Hispanic dropout problem in Chicago. The major reason given by a sample of 201 youths who were interviewed, as the reason for dropping out was "fear of gangs". This study also sought to determine the accuracy of Chicago Public School official records. Kyle concluded that the manipulation of the statistics by the Chicago Board of Education understated the dropout problem by 250 percent and contributed to the continuance of the problem. That is, if there is no problem you don't have to do anything about it. In 1983, at the end of four years, only 26 percent of the freshman cohort had graduated. Kyle concluded that the dropout rate at the two Hispanic high schools was approximately 74 percent, an estimate very similar to that of the Lucas (1971) study. Kyle was critical of the Chicago Board of Education for using an annual dropout rate of 17 percent which mislead the public and cloaked the seriousness of the dropout problem. He found that using a cohort dropout rate for the class of 1983 would have generated a 51 percent dropout rate for the Chicago Public Schools (CPS).

More recently a local study of the system's high schools (Designs for Change, 1985) sought to determine if the CPS was meeting its "bottom line" obligations and producing graduates. The study reported that for the CPS the high school completion rate for the class of 1984 was about 47 percent. This implies a cohort dropout rate of approximately 53 percent, however, the study did not account for non-graduates that might have remained in school more than four years. The data were further analyzed to determine the completion rate for the non-selective, segregated Hispanic high schools. A non-selective, segregated school is a neighborhood school that does not have selection criteria for admitting students and is racially isolated with more than 70% minority students (Designs for Change, 1985). The completion rate for the segregated, non-selective high schools which are predominantly Hispanic was found to be only 36 percent, thus a possible dropout rate of about 64 percent.

Within months of the Designs for Change (1985) study, the Chicago Panel on Public School Finances released an equally significant dropout report (Hess & Lauber, 1985) supporting previously reported high dropout rates in Chicago public high schools. The researchers studied the graduating class of 1982 and found a citywide cohort dropout rate of 43

percent; with a dropout rate of 35 percent for whites, 45 percent for blacks and 47 percent for Hispanics. Additionally, they suggested that factors contributing to these high dropout rates were below average reading scores and overage when entering high school.

The gravity of the Hispanic dropout problem is of such magnitude that the Illinois State Task Force on Hispanic Student Dropouts (ISTF) was created in 1984 by the Illinois General Assembly (State of Illinois, 83rd General Assembly, 1984). In a cover letter to the commission's report it is stated that the dropout rate for Hispanic students is of "crisis proportions, creating conditions for high unemployment and other social costs by virtue of lost talents and skills to the State of Illinois" (ISTF, 1985). The Education Package of 1985 (State of Illinois, 1985) provided funds ($375,000 in grants) specifically earmarked for Hispanic dropout services in order to address the recommendations of the Task Force on Hispanic student dropouts, such as summer school, evening school, after school activities, career counseling programs and tutorial programs.

The Chicago School Reform Act of 1988 (State of Illinois, 1989) mandates a dropout prevention goal for the Chicago Public School system "that students .....graduate from high school at rates that equal or surpass national norms" (Sec. 34-1.01, p.25). The School Reform Act further requires each local school improvement plan to assure "that students attend school regularly and graduate from school at such rates that the district average equals or surpasses national norms" (Sec. 34-2.4, p.43).

As we probe further and advance in our understanding of this complex problem, the disengagement and dropping out of our youth from high school, new issues and concerns regarding the schooling of our children emerge. The Hess and Greer (1987) study, Bending the Twig, supports the need to direct our dropout prevention efforts toward the elementary school level. This study found that elementary schools that had high numbers of dropouts graduated large percentages of students who were reading below grade level and were overage. Schools with higher levels of low-income students had higher dropout rates, and minority schools had a higher proportion of low income students. The retention (demotion) of students after third grade significantly raised the dropout rate. In fact, retention did not reduce but did increase the dropout rate.

The Chicago Panel further examined the presence of dropout predictors at the elementary school level in their most recent dropout study Against the Odds: The Early Identification of Dropouts (Hess, Lyons, Corsino & Wells, 1989). Their study of Chicago students from the high school class of 1982 attending seven elementary schools further emphasizes the need to begin dropout intervention measures at the initial stages of a child's educational career. Hess et al. (1989) report that a combination of absences and low academic grades are good predictors of eventually dropping

out of high school. They maintain that "at risk" students can be identified by the end of fourth grade. The variables of grade retention and transferring into the Chicago Public School system, after schooling has begun, were associated with dropouts; and there is a stronger correlation between elementary school performance and high school completion for girls than for boys. The researchers recommend that school personnel identify "at risk" students in the early grades in order to intervene with preventative programs at the elementary school level.

In the Hess and Greer (1987) Chicago study of elementary school graduates from the class of 1978 that would eventually become the high school class of 1982, the researchers generalize their findings in describing the characteristics of typical dropouts in Chicago schools as those students "who are poor readers, overage, poor and Hispanic" (Hess and Greer, 1987, p.13).

The preceding studies demonstrate the need for further research on the school-related reasons that generate such high dropout rates among Hispanic high school students. This research area of school-related variables has not been fully explored. The application of a model that helps to explain dropout behavior can be used to form policy and assist in the development of dropout intervention programs designed specifically to serve Hispanic high school students.

CONCEPTUAL FRAMEWORK AND RELATED LITERATURE

Major Concerns Related to Dropout Research

A review of the literature on the problem of dropouts in our public school systems reveals that there are two related major concerns that are continually cited: the neglect of public institutions to even attempt to assess the problem (Illinois State Task Force on Hispanic Dropouts, 1985; Kyle, 1984; & Lucas, 1971) and the problems in assessing the number of dropouts (Designs for Change, 1985; Hammack, 1986; Hess & Lauber, 1985; HPDP, 1984; Morrow, 1986; USGAO, 1986). All studies, local and national indicate a need for a uniform definition of dropout and a method for calculating the dropout figures. In his analysis of dropout reports issued by six large urban school districts (Boston, Los Angeles, Miami, New York City, San Diego and Chicago) Hammack (1986) concluded that there is no standard definition of dropout in these reports and that comparisons across school districts are further complicated by the fact that each school system calculates the dropout rate differently and includes different data.

Preoccupation with the concern over the definition of dropout can produce two perspectives on the problem. One perspective scrutinizes how school systems define dropouts and measure completion rates in order to hold school systems accountable for the degree to which they provide effective educational programs for their students (Hammack, 1986). Mann (1986) on the other hand feels the number of dropouts is less important than what school systems do about the problem.

Types of Dropout Research

Knoell (1966) and Marsh (1966) separately reviewed research on college dropouts and their work suggests six major types of college dropout research that are applicable to research on high school dropouts. The census studies document the magnitude of the problem and establish baseline data for particular schools or school systems (Knoell, 1966). Descriptive studies provide a comparison of student background characteristics such as socio-economic-status (SES), parents background, sex, racial/ ethnic background, and achievement (Marsh, 1966). Autopsy studies attempt to identify reasons for leaving school (Knoell, 1966) and seek self-reported reasons for students dropping out of school. Case studies use long term follow-ups of students who initially were regarded as potentially "at risk" (in danger of ending their formal education by dropping out) or who actually dropped out (Knoell, 1966). Philosophical-theoretical studies usually include recommendations for action based on the assumption that dropouts should be prevented (Marsh, 1966). Finally, predictive studies use a range of variables to generate a prediction measure for persistence or dropout behavior (Knoell, 1966; Marsh, 1966). A more recent trend in dropout research is ethnographic studies which examine school characteristics that may contribute to a student dropping out of high school.

Census Studies.

In the 1980's, three investigations by organizations or persons outside of the school system (Designs for Change, 1985; Hess & Lauber, 1985; Kyle, Lane, Sween & Triana, 1986) provided information on the Chicago Public School system. Each contains descriptive information on the Chicago Public School system. All three studies can be categorized, based on Knoell (1966), as census studies as they document the magnitude of the problem and establish baseline data for particular high schools and/or all high schools.

One of these studies (Designs For Change, 1985) examined two characteristics in each of Chicago's 62 high schools for the class of 1984: the system's high school completion rates at the end of four years (47% of the system's high school students graduated within four years of beginning 9th grade) and high school seniors reading achievement levels (33% read at or above the national average). The data gathered was further analyzed and compared based on four types of high schools; selective academic high schools, selective vocational high schools, non-selective integrated high schools and non-selective segregated high schools. The completion rate for non-selective segregated high schools which are predominantly Hispanic was found to be only 36 percent. They reported a completion rate for selective, academic high schools of 73 percent; non-selective, integrated high schools, 65 percent; and selective vocational schools, 52 percent. The dropout rate for non-selective segregated high schools which are predominantly black was 35 percent.

A study issued by the Chicago Panel on School Finances (Hess and Lauber, 1985) contains a longitudinal analysis of the high school graduating classes of 1982, 1983 and 1984. The class of 1982 had a cohort dropout rate of 43 percent (based on four years). The study tracks entering freshmen and whether or not a student transferred to another school or dropped out. The study differentiated between actual dropouts and students who remained enrolled after their classmates had graduated. Additional demographic data on dropouts are provided for age, race, ethnicity, reading scores, and gender. This study calculated a dropout rate for Hispanics of 47 percent, blacks 45 percent and whites 35 percent. The authors concluded that two of the most important factors contributing to the dropout rate were below average reading scores and overage freshmen. Retention of students in elementary school resulted in overage freshmen which in effect increased the dropout rate. Indeed, even overage students reading a grade level higher than normal age students would tend to dropout more frequently.

The third report by Kyle et al. (1986), using the same four types of high schools as the Designs For Change study, reveals that there is little difference between dropout rates for racial/ethnic groups if they attend the same type of school. They found that "at risk" students are often overage, have failed minimum competency tests, and are below

level in reading and mathematics. Kyle et al (1986) also found that principals perceive course failure as the most important reason for students dropping out of school and determined that Chicago high school dropouts earn at least $5000 less per year than high school graduates.

Descriptive, Autopsy and Case Studies.

Studies on high school dropouts that attempt to determine the causes for dropping out are usually student centered (Kyle, 1984; Lucas, 1971; Page, 1967; Rumberger, 1983; Steinberg, Blinde, & Chan, 1984). These studies usually survey students after withdrawal from school and treat student departure from school as if the causes remain the same across a long period of time. These studies (student centered) can be placed in one of three categories; descriptive studies (Marsh, 1960), autopsy studies (Knoell, 1966), or case studies (Knoell, 1966).

The descriptive studies attempt to describe the dropout in terms of his/her background characteristics. A review of the literature by Steinberg et al. (1984) provides descriptive information in which two factors are found to be related to dropping out: SES and belonging to a Hispanic language minority.

Autopsy studies attempt to identify the reasons for leaving school by asking the dropout questions about their reasons for withdrawing from school. The Rumberger (1983) study on dropping out of high school of white, black and Hispanic students confirmed previous studies that found that men are more likely to leave to go to work and women are more likely to leave because of pregnancy or marriage.

Unlike the autopsy studies cited, Miller (1985, unpublished data) surveyed Hispanic students while still enrolled in a Chicago high school and found that the ranked causes for probable dropouts (those students who indicated they probably would not graduate) from school were first, academic failure; second, economic reasons; and third, personal problems.

Kyle (1984) used the case study and autopsy approach to do a long term follow-up of Hispanic students who were initially regarded as "at risk" while they were still in high school or who actually dropped out. Kyle's study found that the major reason given by youths who dropped out was "fear of gangs".

Philosophical-Theoretical Studies.

The philosophical-theoretical category is usually included as part of one of the four previously cited types (census, descriptive, autopsy and case) of dropout studies. This type of study includes recommendations for action based on its research findings. Designs For Change (1985) proposes a ten point program for restructuring the school system (census study); Hess and Lauber (1985) make systemwide recommendations for the purpose of combating the dropout problem in Chicago (census study); and Miller (1985, unpublished data) provides recomendations for a specific high

school and proposes a theoretical model for use in explaining the dropout process (census study).

Summary of Hispanic and Local Studies

To summarize, the Hispanic and local dropout studies indicate that three major causes for dropping out of school for Hispanic students (not ranked) are academic failure (HPDP, 1984; Steinberg et al., 1984; MSBOE, 1986; Miller, 1985, unpublished data) family related economic reasons (HPDP, 1984; Lucas, 1971; Miller, 1985, unpublished data; Rumberger, 1983; and Steinberg et al., 1984) and individual personal problems (Lucas, 1971; Miller, 1985, unpublished data; and Rumberger, 1983). Background characteristics that are strongly associated with dropping out are SES (MSBOE, 1986; Steinberg et al., 1984; USGAO, 1986) and race/ethnicity (Designs For Change, 1985; Hess & Lauber, 1985; Rumberger, 1983; Steinberg et al., 1984; USGAO, 1986).

Four major studies (Designs for Change, 1985; Hess and Lauber, 1985; Kyle et al., 1986; Hess et al., 1986) have contributed descriptive information on student and school characteristics related to high dropout rates. Chicago public high schools that experience high dropout rates have students who enter high school overage (Hess & Lauber, 1985; Kyle et al., 1986), are functioning below average in reading (Designs For Change, 1985; Hess & Lauber, 1985), have failed minimum competency tests (Kyle et al., 1986) and thereby experience academic failure (Kyle et al., 1986; Hess et al., 1986).

An Ethnographic Study

In a study conducted by the Chicago Panel on Public School Policy and Finance (Hess, Wells, Prindle, Liffman & Kaplan, 1986), school factors were examined to help explain the differences in dropout rates among schools with similar student bodies. Based on research from the "effective schools" literature, the ethnographic study included four matched pairs of Chicago public high schools with similar student enrollments which were isolated through a regression analysis. The goal was to determine in what ways schools having lower dropout rates differed from their paired school with the higher dropout rates. The study specifically focused on factors that could be controlled by school administrators and concluded that five major characteristics differentiated the schools with the low dropout rate from the schools with a high dropout rate. The five characteristics are: (a) strong leadership from the principal and his/her administrative team, (b) more order and discipline throughout the school, (c) low failure rates, (d) more active instruction and less seatwork in the classroom and (e) more interaction between teachers and students in class.

The school characteristics associated with high dropout rates are those high schools that are non-selective and segregated (Designs For Change, 1985), lack strong administrative leadership (Hess et al., 1986), lack order and discipline (Hess et al., 1986), have a high failure rate (Kyle et al., 1986; Hess et al., 1986) and are dominated by

passive instruction with minimal student and teacher interaction in the classroom (Hess et al., 1986). In analyzing the contributions of student characteristics and school characteristics, Natriello, Pallas, and McDill (1986) found that these two components are related to each other. Background characteristics determine the kinds of schools and educational processes to which students have access and the school characteristics influence and attract students with certain types of characteristics.

A Theory-Based Model for Assessing the Dropout Process: Tinto's Conceptual Model of Dropouts from Higher Education

The current trend in dropout research literature is focusing on school characteristics that contribute to or prevent dropping out by students. Wehlage and Rutter (1986) and Fine (1984) have examined the role played by school characteristics in contributing to the dropout problem. They argue that schools can do nothing about students' background characteristics that contribute to dropping out. However, by searching for school factors that are under the control of the school, school-based reform measures can be made to modify the school situation for "at risk" students. The difference in the major causes for dropping out between two Hispanic Chicago high schools: fear of gangs at Clemente High School (Kyle, 1984); and the need to work and multiple course failures at Juarez High School (Miller, 1985, unpublished data) implies that dropout prevention efforts must be individually designed for each school based on a hierarchy of causal factors.

Although the above cited studies are significant illustrations of the seriousness and magnitude of the dropout problem, they provide only descriptive information of how various individual or school characteristics relate to dropping out. As research studies examined by Tinto (1975) related to higher education indicate, knowing a student's measured ability, sex, SES, race/ethnicity, and GPA and relating these to a student's probability of leaving school does not mean knowing how these attributes affect dropping out from college. Tinto formulated a conceptual model based on the proposition that persistence/withdrawal behavior is influenced by student-institutional fit.

Tobin and Ventresca (1987) and Ogbu and Matute-Bianchi (1986) perceive societal, political and educational responses to minority student's school failure as too narrow. The research on at-risk students and dropouts is generally descriptive and merely tells us how minority students fail but does not explain why some minority students persist and achieve in school in spite of language and cultural differences. Ogbu and Matute-Bianchi (1986) propose that a broader conceptual framework needs to be developed that links the relationships between educational institutions and individuals to sociocultural and historical forces. This broader conceptual framework would not only describe but also explain the reasons for the process of minority student school failure which places them at risk.

There is the need, at this point, to inject the notion of persistence, as opposed to dropping out, as a characteristic that exists among Hispanic students. Persistence is the ability to remain in high school until completion/graduation. Persistence is not researched as a characteristic that exists among our Hispanic students. Descriptive studies such as those cited above (Designs for Change, 1985; Hess and Lauber, 1985; Hess et al., 1986; Kyle et al., 1986) provide valuable baseline data and information on dropouts for the school system and for individual schools. However, by dealing with the problem at an aggregate level, negative characteristics are generalized to the total student population, usually based on racial/ethnic membership, without considering the individual attributes of students that are of a more positive nature. These positive attributes are the ones that need to be examined in order to promote persistence among Hispanic students (Miller, 1989).

Dropout studies generally do not differentiate between the differing Hispanic subgroups and aggregate all Spanish-speaking, language minority students under the umbrella term "Hispanic". Research on Hispanic persisters and dropouts is needed that considers, the differing cultures, language dominance, second language proficiency; and the life and educational experiences of Hispanic subgroups.

The findings presented in the group of autopsy studies (Chicago Board of Education, 1976; Kyle, 1984; Lucas, 1971; Rumberger, 1983) indicate a need for longitudinal research to determine whether the reported factors involved in a student's dropping out are the same during the first year of high school as they are for a student's dropping out after the first year of high school. Self-reported reasons for dropping out (autopsy studies) are influenced by youths' perceptions of their circumstances at a given time and may be inaccurate (USGAO, 1986). Also, there is a lack of a theory based model that can be predictive of the dropout process. None of the aforementioned studies can be identified as a predictive study as categorized by Knoell (1966) and Marsh (1966) as they do not include a range of variables to generate a prediction measure for persistence or dropout behavior in high school. Also, absent are a category of studies that Spady (1970) called analytical-explanatory in which we can incorporate several variables associated with dropping out that when combined may help to explain the dropout process within an environmental context.

It appears that high school dropout research needs to take the same direction, as that suggested by Spady (1970), regarding dropouts from higher education. That is, we should focus "on the relationship between the attributes of students and those of the institutional environment as they pertain to both its academic and social subsystems" (p.64). For a theory based model, we can look to studies of dropouts from higher education that provide an explanatory, predictive model of the dropout process. There is in Tinto's theoretical model (1975), with further refinement and

definition in the work of Pascarella and Terenzini (1980, 1983), the potential for a theoretical framework that may be useful in predicting and explaining the dropout process taking place in secondary schools. The application of an adapted version of the Tinto causal model with secondary school students may support the contention that persistence/dropout behavior among students is essentially the result of a longitudinal process of person-environment fit (Tinto, 1975).

Tinto's (1975) theoretical model explains the processes of interaction between the individual and the institution that result in dropping out or disengagement from higher education. Tinto found in his theoretical synthesis of dropout research that the research had not developed longitudinal studies that could lead to an understanding of the processes of interaction that bring different individuals within a school to varying forms of persistence or dropout behavior. In his paper he developed an institutional model that sought to explain dropout from institutions of higher education. Tinto's (1975) theoretical model argues that "the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a persons' experiences in those systems continually modify his goal and institutional commitments in ways which lead to persistence and/or varying forms of dropout" (p.94) and "given individual characteristics, prior experiences and commitments,...it is the individual's integration into the academic and social systems of the college that most directly relates to his continuance in that college" (p.96).

Pascarella and Terenzini (1980) examined the predictive validity of a measure constructed specifically to assess Tinto's (1975) concepts of academic and social integration. They also sought to determine whether a multidimensional measure of social and academic integration would significantly discriminate between freshmen year persisters and voluntary dropouts with students' entering characteristics held constant. The results generally supported the predictive validity of Tinto's (1975) model. Persisters' average scores were higher than those of students who dropped out at the end of the first year.

A later study by Pascarella and Terenzini (1983) provides a more comprehensive test of the validity of Tinto's (1975) causal model of voluntary withdrawal from school. The data from this study supported Tinto's contention that persistence/withdrawal behavior is essentially the result of a longitudinal process of person-environment fit. The study suggests that although pre-enrollment characteristics and commitments generally influence a students' interaction with the social and academic systems of an institution, it was social integration (peer group associations, interaction with faculty and participation in extracurricular activities) and academic integration (grade performance and intellectual development) that directly affect persistence and withdrawal

behavior. This may suggest that the quality of a student's interactions with the school environment after enrollment is a more important factor in persistence or dropout behavior than the characteristics the student brings to the school (Pascarella and Terenzini, 1983). In terms of having a greater positive influence on persistence, academic integration was more important for students with low levels of social integration and vice versa.

Fox (1986) recently applied the Tinto (1975) model in a study of retention and attrition after the freshman year among disadvantaged students at a four year, urban, commuter university, the City University of New York. The study found the Tinto (1975) model to be sensitive to the dimensions of student-institutional fit for that setting. The students were participating in a program that had been established for disadvantaged, primarily minority youth whose high school performance would have prevented admission to college. The clustered variables indicating academic integration appeared to have the greatest direct influence on freshman year retention. The aggregate variable representing social integration was not positively correlated to persistence, however, it was significantly related in a negative direction.

An Adaption of the Tinto Model at the Secondary Level

Miller (1985, unpublished data) suggests that Tinto's (1975) theoretical model may be applicable in secondary education. This study is based on survey data collected from students at an Hispanic (Mexican) high school in Chicago. The survey results indicate that students at this high school are sucessful at integrating into the social system of the school. Eighty-six percent of the students surveyed responded positively to statements related to interpersonal relationships with teachers and students. However, Juarez High School students did not appear to be integrated into the academic system of the school. Despite the good interpersonal relationship between students and teachers, the average end of semester failure rate was 45 percent meaning that every semester an average of 45 percent of the student population failed one or more courses. However only 15 percent of the students felt they may not finish high school due to course failures. Students appeared to be unaware of the cumulative effect that course failures would have in preventing them from graduating. The students appeared to view the dropout problem as "someone else's" problem and did not recognize any close personal association with dropping out. Although 81 percent of the students believed there was a dropout problem at Juarez High School, 96 percent stated they would graduate from high school and 83 percent stated that most of their friends would complete high school and only 3 percent stated they would not graduate. The cohort dropout rate at Juarez during the survey period (1984-85) was approximately 47 percent (Hess & Lauber, 1985).

This study (Miller, 1985, unpublished data) suggests that a student's interaction with the academic system of a

high school (academic integration) has an important causal relationship with regard to persistence or dropout behavior and that a safe and friendly environment (social integration) may have negative effects on academic integration. Is the development of good interpersonal relationships (high social integration) not providing the student with the appropriate signals of failure and obscuring the indicators of low levels of academic integration that would reduce the probability of completing high school?

An adaption of Tinto's (1975) model (see Figure 1) of dropout from college can provide us with a theoretical framework for the development of a predictive, explanatory model of dropout from high school. This theoretical model attempts to explain the processes of interaction between an individual high school student and the school environment that lead to dropping out of high school. The theory contends that the process of dropout from high school is a longitudinal process of interactions between an individual student and the academic and social systems of a high school during which the student's experiences with those systems continually modify his or her goal and school commitments in ways which lead to persistence or dropout behavior. Background characteristics and student attributes will influence the educational expectations and commitments that a student brings to the school environment. However, if individual characteristics, prior experiences and commitments, are held constant it is the student's integration into the academic and social systems of the school that will ultimately influence his or her completion of high school. There is then, in the Tinto (1975) model, the theoretical framework that can be used in explaining and predicting the persistence/dropout behavior of high school students.

Insert Figure 1 about here

The purpose of this study is to validate a theoretical framework that can be used in predicting and explaining the persistence/dropout behavior among Hispanic subgroups of students in high school. Persistence is defined as the ability to remain in high school until completion/graduation. Dropout is defined as a student (between 13 and 21 years of age) who is not still in school, not transferred, not graduated, not dead. This study applies a modified conceptual model developed by Tinto (1975) to a group of Hispanic high school students and examines the predictive ability of two major constructs of the Tinto (1975) model; academic integration and social integration.

Given that a high school student's individual characteristics, prior experiences and commitments are held constant, the students' individual integration into the academic and social systems of a high school will directly affect that individual student's persistence or dropout behavior. This study will examine the socialization process

in high school using a modified framework based on Tinto's model of persistence/withdrawal behavior to explain why Hispanic students with similar backgrounds persist while others do not.

This study will answer these questions. Will the Puerto Rican and Mexican profiles differ? Will the male and female profiles differ? Will the academic integration and social integration variables serve as predictors for persistence/dropout behavior for the sample as well as the gender and Hispanic subgroups?

Although Tinto's (1975) model deals with persistence/withdrawal behavior during four years of college, studies of high school students indicate that dropping out from high school among Hispanic students is heaviest during the first year of high school (Lucas, 1971; Tidwell, 1985).

A modification of Tinto's (1975) conceptual schema, which contains five variable clusters in a causal sequence (validated with college students by Pascarella and Terenzini, 1983), will be used to assess the validity of the Tinto (1975) model as it relates to persistence/dropout behavior among Mexican and Puerto Rican high school students. The high school model on persistence/dropout behavior will contain five variable clusters; background characteristics, external factors, academic integration, social integration and commitment to stay in school. This model differs from the Tinto (1975) model in that initial goal commitments and institutional commitments are not assessed. This initial assessment is omitted because a college student has made a choice to go on to higher education. However, an elementary graduate under 16 years of age is required to enroll in high school due to compulsory attendance laws. Students are graduated from elementary school in June if they become 15 years of age by December 1st of the current school year (CBE, 1985) or if they successfully complete the eighth grade.

Background characteristics can be divided into three groups (a) family background as it relates to socio-economic status, (b) individual attributes such as age, sex, racial/ethnic background (Hispanic subgroup), language dominance, second language and (c) pre-high school education based on achievement scores in reading and math.

In a more recent model of institutional departure conceptualized by Tinto (1987), he includes in the model the variable set of external commitments. This variable set represents forces external to the school community which may impact on an individual's decision to persist or drop out from school (i.e., family, neighborhood, peer groups, economic need, etc.). These external factors could serve to counter rather than support persistence in school (Tinto, 1987).

Numerous studies on Hispanic dropouts reveal that after academic failure the major causes for dropping out are family related economic reasons (HPDP, 1984; Lucas, 1971; Rumberger, 1983; and Steinberg et al., 1984) and individual personal problems (Lucas, 1971; and Rumberger, 1983). In order to

account for the effects of non-school related variables, the conceptual model contains a set of variables that represent external factors that may effect student persistence or dropout behavior.

Several studies (HPDP, 1984; Miller, 1985, unpublished data; MSBE, 1986; Steinberg et al., 1984) have shown that low levels of academic performance in high school are an important factor related to dropout behavior in high school among Hispanic students. Academic integration is defined as a student's ability to function within the academic system of a school by achieving good grade results that indicate acceptable levels of academic performance.

Students who are highly integrated into the social aspects of school are less likely to become disengaged and drop out (Miller, Leinhardt & Zigmond, 1988). In a secondary analysis of the 1980 sophomore cohort in the national High School and Beyond survey, Stern, Paik and Catteral (1987) found that among the significant predictors of high school graduation was the frequency of absence variable. Pollard (1989) in her study of academic achievers of poor, urban, minority (black and Hispanic) high school students found that high achievers are more likely to seek help from others in solving school related problems than non-achievers. In Boyer's (1983) report on secondary education in the American high school, he noted that special programs for high-risk students (students in danger of dropping out) that appeared to succeed were those programs that had developed a close relationship between a student and a counselor or a teacher.

Social integration is defined as the degree or extent to which a student develops peer group relationships, interacts with faculty and participates in extracurricular activities. The results from two previous studies (Lucas, 1971; Kyle, 1984) imply a lack of social integration as a strong factor in influencing dropout behavior among Hispanic students. The Juarez High School student survey results (Miller, 1985, unpublished data) suggest that Hispanic students may be successful at integrating into the social system of the high school but appear not to be integrated into the academic system of the school. This may suggest that for Hispanic students good social integration may provide an artificial feeling of success in high school and that only strong social integration and strong academic integration will influence persistence among Hispanic students.

A student eventually develops levels of commitment to remain in school and graduate and to the school itself based on his or her school experiences. Tinto (1975) argues that a model of dropout would have to include information on the level of educational expectation and whether an individual's expectations involved a specific institution in order to determine their influence on an individual's level of commitment to persist or dropout.

In examining the sources of alienation and commitment among students in high school, Rosenblum and Firestone (1987)

noted that these two extremes are generally defined by "the presence or absence of a psychological bond or identification of the individual with the larger system" (p.3). Their investigation identifies two types of student commitment; commitment to the place (the high school) and/or a commitment to learning. Students who had a commitment to learning displayed a strong belief in the importance of doing well in their courses. Students who had a commitment to the place, displayed a strong positive attachment to the specific high school. The Stern et al. (1987) study found that a student's expectation to graduate from high school was a significant predictor of high school graduation.

The commitment to stay in school is defined as the students' commitment to learning and graduating from high school and to graduating from a specific high school.

Persistence/dropout behavior is determined by a student's continued enrollment in school or official removal from school enrollment records. The current definition of a dropout as established by the State of Illinois, Senate Bill 1666 is that "a dropout is defined as any child enrolled in grades 1 through 12 whose name has been removed from the district enrollment roster for any reason other than his death, extended illness, graduation or completion of a program of studies and who has not transferred to another public or private school" (State of Illinois, 1988, pp.208-209).

A model of persistence/dropout behavior, that includes the constructs of academic integration and social integration can be an effective instrument in identifying areas of need or reinforcement for Hispanic students who subsequently persist or drop out and can be used to initiate the appropriate interventions within the high school environment before dropping out occurs.

METHODOLOGY

Subjects

Data was collected from students who attended a non-selective, predominantly Hispanic high school in Chicago during the 1987-88 school year. The high school is located in the West Town community on the near, northwest side. The 26th ward, which includes the West Town community, has a population that is 63 percent Hispanic (Latino Institute, 1986).

The high school used in this study was selected because of its large percentage of both Mexican (42.3 %) and Puerto Rican (34.0 %) students (Chicago Public Schools, 1988a). This was the only Chicago high school with large percentages of both of these two subgroups during the 1987-88 school year. The total racial/ethnic composition of the school as reported on October 30, 1987 was 77.7 percent Hispanic; 15.5 percent black; 6.4 percent white non-Hispanic; 2 percent American Indian; and 3 percent Asian (Chicago Public Schools, 1988a). Enrollment during the 1986-87 school year was reported as 1737 indicating an increase of 9 percent over the previous school year (Chicago Public Schools, 1987b) and 1801 during 1987-88, an increase of 4 percent (Chicago Public Schools, 1988a).

The reported school characteristics for the 1987-88 school year (Chicago Board of Education, 1988) indicate that 52.4 percent of the students come from low-income families. Eleven percent of the students were identified as limited-English-proficient (LEP) and need an instructional program in which the home language is used for a portion of the instruction. The attendance rate, the total days of student attendance in the school year divided by the total number of days of student membership for the year, was 83.8 percent. The citywide high school attendance rate was 91.2 percent. The stability rate of the student population, "the number of students who remain enrolled both on October, 1987 and May, 1988 divided by the May, 1987 membership figure" (p.23), was 92.5 percent (Chicago Board of Education, 1988) while the citywide high school stability rate for 1985-86 was 94.9 percent (Chicago Board of Education, 1987).

During the fall of 1987 the Test of Achievement and Performance (TAP), a nationally standardized norm-referenced achievement test, was administered to all students. The median percentile scores on the TAP for first year students was 23 in reading and 25 in mathematics, while the citywide results for first year students was 31 in reading and 28 in mathematics. The median percentile scores for third year students was 26 in reading and 25 in mathematics. The citywide results for third year students was 36 in reading and 32 in mathematics (Chicago Board of Education, 1988). In the Spring of 1986 the freshmen class had a failure rate of 63 percent, indicating that 63 percent of the freshmen students failed one or more courses during the third quarter (Hess et al., 1986).

The subjects for this study were volunteer student

participants from freshmen, sophomore, junior and senior English classes. The student survey instrument was administered by the English teachers to 645 student volunteers attending their English classes. Of the total group, the parents of 338 students gave consent to access school records to complete the data that was needed for all of the variable clusters. Of this total, 155 (45.9%) were males and 183 (54.1%) were females.

The sample composed of students in grades nine through twelve were: 55.9 percent (n=189) Mexican; 29.0 percent (n= 98) Puerto Rican; 1.8 percent (n=6) other Hispanic subgroups (a total of 86.7% Hispanic); 6.5 percent (n=22) black; 3.3 percent (n=11) white non-Hispanic; 2.7 percent (n=9) other ethnic groups; and .9 percent (n=3) unknown. The Mexican subgroup includes Mexican students born in Mexico as well as Mexican American students who were born in the United States. The percentages of Hispanic subgroup representation in the sample were similar to the citywide distribution of Hispanic subgroups. The citywide percentage of Hispanic representation by subgroup at the secondary level during the 1987-88 school year was; 58.5 percent Mexican; 32.9 percent Puerto Rican; and 8.7 percent other Hispanic subgroups (Chicago Public Schools, 1988b).

Although the target groups were freshmen and juniors, the fact that the survey was administered through the English classes, which in some instances had two grade levels represented in a class, resulted in a number of tenth and twelfth grade students being included in the sample (see Table 1).

Insert Table 1 about here

The mean age of the sample was 15.9 years. As the students began the ninth grade, 50.3 percent were overage (had reached 15 years of age by December 1 of their freshmen year in high school). The SES level based on self-reported participation in the free or reduced lunch program indicates that 77.5 percent of the sample came from low-income families. Fifty-two percent of the students were born in Mainland U.S.A., 7 percent were born in Puerto Rico, and 40 percent were foreign born (Mexico and other countries).

A review of official school records show that 13.6 percent of the sample surveyed participated in the school bilingual program (Spanish/English), while 17.5 percent participated in some type of remedial program. During the 1987-88 school year, honors classes were not offered as part of the curriculum at this high school. When asked to describe their course of study in high school, 65.4 percent indicated they were in general education, 9.2 percent in a vocational course of study and 22.5 in a college preparatory course of study.

English was cited as the language they "knew best" by 64.2 percent of the students in the sample while 50.6 percent indicated that Spanish was their second language. Spanish

was the dominant language for 34.9 percent of the students in the sample. Despite the English dominance of the group, 47.3 percent of the sample reported that they usually spoke Spanish at home and some English. Only 12 percent of the students in the sample spoke only English in their home; 17.5 percent spoke only Spanish; and 21.9 percent usually spoke English and some Spanish.

A dropout study on Chicago's high schools, which includes this high school's entering class of 1982, estimates the school's cohort dropout rate to be 56 percent (Hess & Lauber, 1985). In comparison, the citywide cohort dropout rate for the class of 1982 was reported as 43 percent (Chicago Public Schools, 1987a).

Procedures

Data were collected through a student survey especially developed by the investigator for this study and from official school records. The survey was administered to the students on March 22, 1988, after first semester grades had been distributed. It was designed to assess their attitudes and expectations regarding their high school experiences and to collect selected background information. The English teachers were provided an orientation session, as to the procedures they were to follow, prior to the administration of the survey. The procedures that were developed enabled the students to complete the survey and ensure that responses were kept confidential from school personnel. In general, the students were able to complete the survey in thirty minutes.

The survey was composed of two parts. Part one sought specific information related to family background, individual attributes and questions related to the social integration, academic integration and school commitment components of the Tinto model. Part two contained a four-response Likert type scale which measured the students attitude and expectations regarding their high school experiences (academic and social integration), school commitment and external factors that might effect their persistence/dropout behavior. The survey instrument was available in Spanish for students who were limited-English-proficient. A reverse translation procedure (from Spanish to English) was used to ensure the Spanish translation communicated the original English question or statement. The student survey had been pilot tested among similar students at a predominantly Hispanic high school located within the same community. Several items were revised for clarity in order to facilitate comprehension on the part of the students. The second set of data collected was by the researcher from official school records such as cumulative grade point average (GPA), eighth grade reading and math ITBS scores (standardized tests), type of academic program, promotion/retention and persistence or dropout status. The monthly official school reports on the number of high school students processed out of the CPS system indicated whether a student had dropped out of school. The timeframe for determining a student's dropout status was from

March 22, 1988, the day the survey was administered, to December 1, 1988, after first quarter grades for the 1988-89 school year were distributed.

The data collected provided the individual variable data needed for each of the variable clusters used in assessing the persistence/dropout behavior of the students (see Table 2).

Insert Table 2 about here

Variable Clusters

Based on Tinto's conceptual model, this model used four variable clusters in a causal sequence; (a) background characteristics, (b) academic integration, (c) social integration and (d) commitment to stay in school, that lead to persistence/dropout behavior (see Figure 1 and Table 2). The added variable cluster, external factors, was placed in the model between student background characteristics and social and academic integration.

The variable clusters were operationalized as follows:

Background characteristics.

Information for family background and individual attributes were collected through the student survey instrument. Pre-high school education data was culled from official school records.

Family background. This characteristic was based on the socio-economic status (SES) of the student. SES was based on eligibility for the free or reduced lunch program, and parents employment status.

Individual attributes. This cluster consisted of five variables: age, gender, racial/ethnic background (Hispanic subgroup), language dominance (L1), and second language (L2).

Pre-high school education. This cluster was measured by the eighth grade reading and math score results from the Iowa Test of Basic Skills (ITBS, standardized achievement test or where available the achievement test results from the CTBS, Spanish version) and the overage status of the student. The ITBS scores and overage status were obtained from official school records.

External Factors.

This variable cluster contains nine items related to external factors (non-school related) that might have a negative effect on persistence behavior. The external factors assessed were those related to family issues, personal problems, gangs and drugs or alcohol. These variables were included in order to account for the effects of non-school related variables that might effect persistence/dropout behavior.

Students who are integrated into and fully participate in the daily life of the school are less likely to drop out. In order to increase the persistence behavior of a student it is necessary that a student either become academically or socially integrated into those environmental aspects of school life (Tinto, 1975; Miller et al., 1988). Or, as

Farrell, Peguero, Lindsey and White (1988) have formulated the question for students "Where do I fit in?"

Academic integration.

Based on the Tinto model, academic integration is determined by a student's academic performance and development. Academic performance data were collected from official school records. Additional information related to a student's academic integration was gathered through the student survey instrument. This cluster consisted of five variables:

- cumulative grade point average (GPA),
- type of academic program (i.e., college preparation, general, or vocational),
- promotion/retention status,
- hours spent on homework,
- a four-response Likert type scale measuring attitudes and perceptions related to the student's academic development.

Social integration.

Social integration is determined by a student's attendance, interaction with faculty and peers and participation in extracurricular activities (Tinto, 1975). The information for this variable cluster was collected through the student survey instrument. This variable cluster contained five items:

- school attendance (number of days absent),
- participation in extracurricular activities,
- a four-response Likert type scale measuring the quality of a student's relationship with school peers,
- a four-response Likert type scale measuring the quality of the student's relationship with teachers,
- a four-response Likert type scale measuring the student's relationship with a teacher/counselor in seeking help with a school problem.

Commitment to stay in school.

As proposed by the Tinto model, a student eventually develops levels of commitment to remain in school and graduate and to the school itself based on his or her school experiences.

The information for this variable cluster was collected through the student survey instrument. This variable cluster was assessed by two factors; the student's perceived importance of learning and graduating from high school and the student's perceived importance of graduating from this particular high school. A four-response Likert type scale was used to measure these factors.

Persistence/dropout behavior.

The data to determine persistence/dropout behavior was obtained from official school records. The official definition of a dropout as defined by the Illinois School Code and as used by the Chicago Public Schools to officially designate a dropout is:

> ".....any child enrolled in grades 1 through 12 whose name has been removed from the district

enrollment roster for any reason other than his death, extended illness, graduation or completion of a program of studies and who has not transferred to another public or private school" (State of Illinois, 1988, pp. 208-09).

Table 2 further defines each variable and provides coding and an alpha reliability measure for the clustered variables.

Methodology Limitations

This study is limited by data collected from a sample of students in a predominantly Hispanic high school and the use of subjects whose participation was voluntary and required parental consent. Additional limitations are the use of a single school during a single year. These factors limit the generalizability of the results over time and to the total population.

Care was taken with the student respondents to avoid the subjects' desire to present socially desirable self images (Adams, 1982) by establishing rapport with the students, emphasizing the need to give honest responses and ensuring confidentiality. However, an additional limitation would be the potential for "response set" (tendency to agree) on the part of the student respondents.

RESULTS

Data Analysis

A standardized score was computed for each variable and then for each variable cluster, except for the individual attributes variable. Ordinary least-squares regression was used with persistence/dropout behavior as the dependent variable to examine Hispanic subgroup and gender differences. For each Hispanic subgroup and males and females, persistence/dropout behavior in high school was regressed on each variable or variable cluster. In addition, separate analyses were conducted for the four subgroups, of Puerto Rican males and females and Mexican males and females as well as the analysis on the total sample. Regression analysis was also calculated using the total sample.

A separate regression analysis was conducted for the total sample and the eight overlapping subgroups to determine the effect of high school experiences on persistence/dropout behavior of the sample. The dependent variable, persistence/dropout behavior, was regressed on all five variable clusters described in the previous chapter and defined in Table 2. The variable clusters were entered in the order of the hypothesized sequence (Tinto's, 1975, conceptual model).

Additionally, least-squares regression was used to determine the relationship of the students' high school experiences to school commitment. School commitment was regressed on each of the first four variable clusters.

The dropout rate (see Table 3) for the entire school during the period the sample group of students were tracked (March, 1988 to November, 1988) was 22.5 percent, N=363 (Chicago Public Schools, 1988d). The dropout rate for the 338 students represented in the sample was 8.6 percent (Chicago Public Schools, 1988c). This percentage, 8.6 percent (29 students), represents a dropout rate for students who at the time of the survey were enrolled and in attendance at the high school and does not include truants or students who may have unofficially dropped out.

Insert Table 3 about here

Regression Analysis for Persistence/Dropout Behavior: Variance Explained and Standardized Weights

Table 4 provides the total variance explained in the dependent variable that is associated with the clusters of predictor variables. The results indicate that for all subjects in the sample there is little association with persistence/dropout behavior (RSQ=.06), but strong and moderate relationships to school commitment (RSQ=.40).

Insert Table 4 about here

Very low levels of the variance in predicting persistence/dropout behavior were explained by the variable clusters in the model for all subjects regardless of gender or ethnicity and only the variance explained for males

(RSQ=.14) and females (RSQ=.13) was statistically significant. However, a modest and significant amount (RSQ=.24) was explained for Mexican males.

The standardized regression coefficient estimates of the effects of all variables on persistence/dropout behavior for all subjects, males, females, Puerto Ricans, Mexicans, and Puerto Rican and Mexican males and females are shown in Table 5. For all subjects, the variable clusters had little or no effect on persistence/dropout behavior except for 8th grade reading and math achievement scores which were statistically significant. When separate analyses were conducted for males and females, the results indicate that for males ethnicity and drugs or alcohol have significant effects in a negative direction, while school commitment has a positive effect on persistence behavior. For females the only statistically significant, variable cluster was the 8th grade achievement scores which had a stronger and positive effect on persistence behavior.

Insert Table 5 about here

When the subjects were categorized based on Hispanic subgroup (Table 4), little variance is explained in the persistence/dropout behavior of these students. The pre-high school achievement scores and drugs or alcohol variables had positive and negative effects respectively on persistence behavior for Puerto Rican students, while school commitment had a significant positive effect for Mexican students.

When the Hispanic subgroups are further separated based on gender, a statistically significant and modest amount of variance is explained by all of the independent variables for the persistence/dropout behavior of Mexican males (see Table 4).

The variable clusters which have a significant negative effect on the persistence behavior of Puerto Rican females are drugs or alcohol and social integration while for Puerto Rican males the significant and positive variables are external factors and social integration (Table 5). The only variable which has a significant effect on persistence/dropout behavior for Mexican females is pre-high school reading and math achievement scores and for Mexican males drugs or alcohol have a negative effect and SES and school commitment have a positive effect (Table 5).

For all subjects in the sample the two high school-related components of the model, academic integration and social integration did not significantly influence persistence among the students in the sample. The only school-related variable to significantly influence persistence was 8th grade test scores and this was a factor mostly for female subjects and more strongly for Mexican females. Pre-high school achievement was also a significant factor for Puerto Ricans but not for Mexicans. In examining Hispanic subgroup and gender differences, the social

integration of Puerto Rican males and females had a significant impact on persistence and no impact for Mexicans. Both Puerto Rican females and Mexican males were more likely to dropout due to drugs or alcohol, however, the Mexican males more so than the Puerto Ricans females. External factors had a significant and positive effect on persistence for Puerto Rican males.

Regression Analysis for School Commitment: Variance Explained And Standardized Weights

When school commitment is used as the dependent variable, the explained variance is significant and larger for all subjects and Hispanic and gender subgroups in comparison to persistence/dropout behavior (Table 4). The explained variance for all subjects is 40 percent, however, it was greater for males (RSQ=.43) than for females (RSQ=.33) and larger for Mexicans (RSQ=.48) than for Puerto Ricans (RSQ=.35). The explained variance for Mexican males, RSQ=.49, and females, RSQ=.48, is considerably higher than for Puerto Rican males, RSQ=.35, and females, RSQ=.39, respectively, however it is almost the same within gender and within Hispanic subgroup. The standardized regression coefficient estimates of the effects of all variables on the commitment to learning and staying in school (school commitment) for all subjects, males, females, Puerto Ricans, Mexicans, and Puerto Rican males and females and Mexican males and females separately are shown in Table 6.

Insert Table 6 about here

For the total sample, the variables that had a significant effect on school commitment were gender, drugs or alcohol, academic integration and social integration, with the gender variable having a negative effect. For both males and females the variable clusters of academic integration and social integration had significant but moderate associations with school commitment. For all males, ethnicity and drugs or alcohol had a significant association with school commitment while for all females being overage when entering high school had a negative association with school commitment (see Table 6).

The only variable that is significantly related to school commitment among all Puerto Rican students is social integration while for all Mexican students the variables significantly associated with school commitment were gender, drugs or alcohol, academic integration, social integration and seeking out a teachers help (Table 6). The gender variable for Mexicans had a negative effect on school commitment.

For all Puerto Rican and Mexican males and females, the social integration variable cluster had a significant association with a student's school commitment (Table 6). For both Puerto Rican male and female students the social integration variable had a stronger association with school

commitment than for Mexican male and females students, however, no other variable had an effect on school commitment for these Puerto Rican subgroups. The academic integration variable had a significant relationship with school commitment for both Mexican males and females, however, more so for the females than for males. For the total sample and subgroups within the sample, the social integration variable had stronger effects on the commitment to learning and staying in school than the academic integration variable. The additional variables of age, drugs or alcohol and seeking out a teachers help had a significant effect on school commitment for Mexican males with the age variable having a negative effect.

Because the variable cluster, school commitment, was significantly related to the persistence/dropout behavior of male students, the variable clusters were regressed on the dependent variable of school commitment. When school commitment was the dependent variable the variable clusters of academic integration and social integration significantly influenced the commitment to learning and staying in school for both males and females. The results of this study generally supported this theoretical component of the Tinto model (1975) in that the variable clusters of academic integration and social integration significantly affected the individual student's commitment. Hispanic subgroup differences indicate that social integration is the only significant variable related to school commitment for Puerto Ricans; whereas for Mexicans, school commitment is a result of both the academic and social integration variables with the additional factor of being able to seek out a teacher's help because of a school problem, having some significance for Mexicans and particularly for Mexican males. An external factor to a school's function in the model, however, apparently internal in its relationship to its social life, was drugs or alcohol. This variable was significantly and positively related to the Mexican males' school commitment.

Additional Analyses

Since the results indicated that a student's school commitment was the only school-related variable to have a positive effect on persisting in school for all males, all Mexicans, and particularly for the Mexican male, additional analyses were conducted to determine whether school commitment was related to the importance of learning and graduating from high school or the importance of graduating from this particular high school.

An analysis of the regression results using the importance of learning and graduating from high school and the importance of graduating from this particular high school as the dependent variables indicate that the constructs of academic integration and social integration (school-related variables) had a statistically significant and positive effect on the students' perceived importance of learning (see Table 7). The academic and social integration variables were the only variables significantly associated with the

importance of learning and graduating from high school for both males and females (see Table 7). The combined variable clusters of academic integration and social integration were significantly associated with the importance of learning and graduating from high school and the importance of learning and graduating from this particular high school for all Mexican students (Table 7). Non-school related variables which significantly influenced the importance of learning appeared only for the Mexicans which resulted in the age and gender variables having negative effects and the drugs or alcohol variable a having positive effect. Being able to seek out a teacher or counselor regarding a school problem had a significant effect on learning and graduating from high school for all Mexicans. Social integration was the only variable which showed significant effects on the importance of learning and graduating from high school and this particular high school for all Puerto Ricans students (Table 7).

Insert Table 7 about here

The dependent variable subset, the importance of graduating from this particular high school, was more frequently influenced by external factors, i.e., gender, ethnicity, overage and drugs or alcohol, for all subjects in the sample. Social integration was the only school-related variable cluster to be associated significantly and positively with graduating from this particular high school for all subjects and subgroups except the Mexican subgroup was also modestly influenced by academic integration. The drugs or alcohol variable again emerges as having a significant and positive association for Mexican students with both the importance of learning and graduating from high school and the importance of learning and graduation from this particular high school variables (Table 7).

The data for the Puerto Rican and Mexican male and female subgroups show the following results for the non-school variables: overage has a negative influence on the importance of learning and graduating from this particular high school for Puerto Rican females (Table 7); drugs or alcohol appear to have a significant and positive association with the importance of learning and graduating from this particular high school for Mexican males; and age has a positive association with the importance of learning and graduating from high school for Mexican females (Table 7).

DISCUSSION

This study used the constructs of Tinto's theoretical model (1975) of persistence/withdrawal behavior of college students and operationalized the model for use with Hispanic high school students. With the exception of the variable cluster, external factors, which contained variables that were not school-related but might effect persistence/dropout behavior, the model used an adaption of Tinto's (1975) conceptual sequence of variable clusters: background characteristics, external factors, academic integration, social integration and commitment to stay in school (Figure 1). Tinto's initial school commitment cluster was not used in the model. This component of the Tinto (1975) model was omitted because a college student has made a choice to go on to higher education, whereas Chicago elementary graduates are generally under sixteen years of age and are required to enter high school due to compulsory attendance laws.

The theoretical framework based on Tinto's (1975) model did not function as a model that could be used to explain the persistence/dropout behavior of this sample of students. The school-related variable clusters of academic integration and social integration did not function as predictors of persistence/dropout behavior for the total sample or for the male, female, Puerto Rican and Mexican subgroups as proposed in the hypothesis. The social integration variable cluster had a limited influence on persistence/dropout behavior for Puerto Rican males and females; a positive influence for Puerto Rican males and a negative influence for Puerto Rican females. In addition, the background characteristics variable cluster which is traditionally associated with dropping out, also did not have a significant effect on the dependent variable for this sample of students. The data indicate that ethnicity, SES status, or language dominance and limited-English-proficiency did not adversely affect a student's success in school. Often these factors of ethnicity, SES and language minority status are considered deficits that place students in an at-risk category. The exception to this finding was the significant and negative association of the ethnicity variable on the persistence behavior of the male subgroup. The model accounted for low percentages of statistically significant, explained variance in the persistence/dropout behavior of males and females; 14 percent and 13 percent respectively. However, a larger percentage, 24 percent, of explained variance for Mexican males was found to be statistically significant.

When examining the Puerto Rican and Mexican male and female subgroups, the Mexican male subgroup had the only significant amount of explained variance when persistence/dropout behavior was the dependent variable and the largest significant amount of explained variance when school commitment was the dependent variable. For Mexican males, school commitment was significantly influenced by all three school-related variables as opposed to two school-related variables for Mexican females and one school-related

variable for each of the Puerto Rican male and Puerto Rican female subgroups. The significant level of school commitment for Mexican males, when persistence/dropout is the dependent variable, may have resulted in the greater level of explained variance for Mexican males. This would suggest that a Mexican male's individual school commitment may be used as a predictor of persistence/dropout behavior for the Mexican male, high school student.

The persistence/dropout behavior for the analyses with the total sample of students, and the males and females separately, was significantly influenced by non-high school related factors (factors external to the high school). Such factors as ethnicity and drugs or alcohol had a negative effect for males and the pre-high school variable, eighth grade achievement scores, had a positive effect for females. The drugs or alcohol variable had a negative relationship to persisting in school until graduation for males, however, it had a positive relationship with a commitment to staying in school. This finding implies that a drug or alcohol contact or resource associated with the high school or its immediate geographic area serves as an incentive for students to attend that school. Therefore a mutual expectation shared by educators and drug dealers would be the expectation that our youngsters attend high school.

The school commitment variable was positively related to persisting in high school for males but not for females. The single, statistically significant influence on female persistence behavior was 8th grade achievement scores. This finding supports the results of the Hess et al. (1989) study of Chicago elementary school students that found a stronger correlation between elementary school performance and high school completion for girls than for boys. Female students who came well prepared from elementary school were more likely to persist in high school. The Hess et al. study included white, non-Hispanics (25.3%), blacks (39.3%), Hispanics (30.0%) and others (5.6%). This study adds and expands upon the Hess et al. (1989) generalization and further supports its findings with this sample group.

Hispanic subgroup differences indicate that persistence/dropout behavior for Puerto Rican students is more likely to be positively influenced by pre-high school achievement and negatively influenced by the external factors of drugs or alcohol; whereas the Mexican students are more likely to be positively influenced by their personal commitment to learning and staying in school.

Previous research studies of dropouts in Chicago Public Schools have not differentiated between differing Hispanic subgroups and aggregate all Spanish speaking, language minority students under the term "Hispanic". The findings of this study suggest different patterns of prediction for each of the subgroups that were examined males, females, Puerto Ricans, Mexicans, Puerto Rican males and females and Mexican males and females. Although the persistence behavior of Puerto Rican males and females was significantly influenced

by the social integration variable, the influence was negative for Puerto Rican females. Both Puerto Rican females' and Mexican males' persistence in school was negatively influenced by drugs or alcohol. Mexican males were positively influenced by SES status and their individual school commitment and for Mexican females pre-high school achievement scores were significant predictors of remaining in school.

The Tinto (1975) model appears to work best when school commitment is the dependent variable with academic and social integration having significant and moderate levels of explained variance for all subjects and all subgroups. All subjects, males and females and Hispanic subgroups, shared a common significant effect by the school-related variables of academic and social integration in predicting school commitment with the exception of Puerto Ricans who did not appear to be significantly affected by the academic integration variable. However, there were large differences between the subgroups of Puerto Rican males and females and Mexican males and females. When subgroups of Puerto Rican males and females and Mexican males and females are examined, social integration is the only school-related variable significantly affecting the commitment to stay in school for all of these subgroups. The academic integration variable was significant only for Mexican males and females.

When school commitment is further examined based on the two subvariables of the importance of learning and graduating from high school and the importance of learning and graduating from this particular high school the Puerto Rican students' commitment to graduating from high school was strongly influenced by the school-related variable of social integration.

Although the commitment to stay in school is significantly influenced by external factors for Mexican students, the school-related variables of social and academic integration also had a strong influence on these students' school commitment. The predictor variables of academic and social integration are also significantly related to school commitment and more specifically the subvariable, the importance of learning and graduating from high school, for all students, males and females.

The results of this study indicate that school personnel may be able to enhance a student's persistence behavior by maintaining the positive effects of the social integration of students (interaction with faculty and peers in the school) on school commitment. The academic integration (academic performance and development) of all students, should be enhanced regardless of gender or Hispanic subgroup.

The analysis of the total sample indicates that the students in the sample appear to be well integrated socially regardless of gender or ethnicity when examining the effects of this cluster variable on the commitment to stay in school. However, the predictor variable, academic integration, was significantly related for Mexican students but not for Puerto

Rican students. The academic integration of Puerto Rican students requires further examination. A comparison of the effects of the variable clusters of academic integration and social integration on school commitment reveals that for the total sample, the males, females and Puerto Ricans, the social integration variable was a better predictor than academic integration. The Mexican students exhibited similar significant levels of relationship for both the academic integration and social integration variable clusters on school commitment. The effect of drugs or alcohol and academic integration on the male students' school commitment were of the same value and significant in a positive direction. The influence of drugs or alcohol suggests a major effort must be made to examine the reasons for the positive relationship of this external factor to school commitment.

The results support the previously stated theory that a student's commitment to stay in school until completion may be significantly different for males and females, as well as for Hispanic subgroups and gender within Hispanic subgroups. Although Hispanic subjects may share the common characteristic of speaking Spanish, the study's results indicate significant differences among Puerto Rican and Mexican students in relationship to their perceptions of school and progress toward persistence and graduating from high school.

Background factors such as SES, ethnicity, gender and language dominance, popularly used to explain Hispanic dropout behavior or lack of school commitment, appear to have little or no impact. Eighth grade achievement levels for all subjects, females, the Puerto Rican subgroup and Mexican females and a student's personal commitment to learning for males, the Mexican subgroup, and Mexican males were significantly related to staying in school until graduation. It appears that persistence/dropout behavior patterns are established by the time students enter high school and that educators should reinforce the development of a student's personal commitment to learn, persist and graduate. This study further reinforces the Hess et al. (1989) recommendation for dropout prevention efforts at the elementary school level.

For some student subgroups various components of the model are more important than others. Which leaves us with the question: Which high school experiences are the most important experiences (facilitators) of persistence for which subgroup of Hispanic students?

The results of the study suggest that a student's individual commitment to learning and staying in school may be the most significant factor influencing persistence behavior among these high school students. The question remains: Can schools influence a student's commitment to learning?

According to Tinto's (1975) conceptual model, significant levels of social and academic integration lead to

the commitment to stay in school (school commitment). This component of school commitment consists of institutional commitment and the goal commitment of staying in school and graduating. As the level of school commitment increases, a corresponding increase in persisting to stay in school occurs (Tinto, 1975). Tinto also suggests that sufficiently high levels of commitment to learning and graduating along with minimal levels of academic integration, social integration and institutional commitment might lead to persistence. The results of this study supports the concept that an academically and socially integrated student is more likely to be committed to staying in school and graduating. The notion that the school commitment variable is closely related to the persistence to remain in school until graduation for this sample of students and that ultimately the combination of commitment to learning and graduating from high school and the commitment to graduating from this particular high school determines whether a student remains in school is also supported by this study.

The lack of a significant relationship between the predictor variables of academic integration and social integration with the dependent variable of persistence/dropout behavior (with the exception of social integration for Puerto Rican males and females) may have occurred because the sample consists of very few dropouts. Conversely, the conceptual model was more effective in predicting school commitment because the sample consisted largely of persisters.

The fact that none of the school-related variables were significantly related to the persistence/dropout behavior of students may also be due to the use of a model that was developed for predicting the persistence/withdrawal behavior of college students. The pre-college characteristic of a commitment to learning evident by the decision to attend college may be a factor that influences a college student's voluntary decision to persist. Whereas a commitment to learning prior to entering high school may not have been fully developed because of the mandatory attendance requirements and, therefore, the absence of a student's conscious decision to go to high school. This would also suggest that the model may be more effective with senior level high school students. However, caution should be exercised regarding the use of data resulting from the application of a model that was developed for college students.

The low number of dropouts among this sample of students indicates that once a student begins to attend high school with some regularity, the chances for dropping out decrease significantly. Therefore, the period prior to this event, the transition period from elementary school to high school, is increasingly more critical in its relationship to persisting in high school until graduation. This fact, the low number of dropouts in this study, also presents a limitation in the study in that it included students who were

in school that day on March 22, 1988 and did not include any truants or students who were absent. This prevents generalizability of the findings. Be that as it may, the findings are of interest because the components of the model (the effects of external factors, academic integration and social integration on school commitment) that are supported by the results can be used by the administration and staff of an individual school to make policy and program decisions that encourage and promote among its students a commitment to staying in school and persisting until graduation. School policy and program consideration should be given to:

(a) an examination of the factors that influence these students' commitment to learning;

(b) the social integration variable which suggests a reinforcement of existing faculty-student relationships

(c) a review of the school's extra-curricular programs and a determination as to whether or not they serve the males, females and Puerto Rican and Mexican students equally well;

(d) a further examination of gender and Hispanic subgroup differences to determine whether the differing patterns of behavior are more closely associated to gender or the Hispanic subgroup.

(e) and finally, dropout prevention programs must be designed to meet the individual needs of males, females and the various Hispanic subgroups.

Although the results of this study do not validate the Tinto model as a predictor of dropout behavior, the results do encourage the application of other models that might be used to explain the persistence/dropout behavior of Hispanic subgroups, including further modification of the Tinto (1975) model.

The Tinto (1975) model used to assess persistence/dropout behavior among Hispanic students is quite complex as are the lives and educational experiences of the students in the sample. Students in high school are in an important transitional and highly developmental period of their life and the experiences of the various subgroups follow different paths towards persistence/dropout behavior. The importance of disaggregating data by gender and Hispanic subgroup and Hispanic subgroup by gender is reinforced by these differing patterns of school commitment and persistence.

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TABLE 1

STUDENT SURVEY (SS) PARTICIPANTS

Grade	March/1988 Membership	Student Survey	SS with Consent	% of SS W/Consent	% of Grade in Study
9	642	312	173	55.5	26.9
10	448	79	42	53.2	9.4
11	325	152	77	50.7	23.7
12	195	102	46	45.1	23.6
Totals	1610	645	338	52.6	21.1

TABLE 2

VARIABLE DEFINITIONS

Variable names	Variable definitions
Background characteristics	
Family socio-economic status	A three-item measure based on father's and mother's employment status and participation in the Chicago Public School's free lunch program (alpha = 0.35).
Individual attributes	A five-item measure based on student's age, gender, ethnicity; and language dominance (L1): coded 1=English is the first language and 0=Spanish/non-English is the first language; second language (L2): coded 1=knows some English and 0=no knowledge of English (alpha = 0.85).
Pre-high school achievement	A two-item measure based on 8th grade reading and math ITBS scores (alpha = 0.78).
Overage	A single item representing the overage status of the student when entering high school: coded 1=not overaged and 0= overaged (15 years old by Dec. 1 of the year the student entered high school.
External factors	
Family related	A two-item, four-level measure representing the extent that family related factors effect persistence/dropout behavior. Response codes ranged from 1= strongly disagree to 4=strongly agree (alpha = 0.62).
Gang related	A single item representing the effects of gang membership as a factor related to persistence/dropout behavior: coded 1=does not belong to a gang and 0=belongs to a gang.

TABLE 2 (continued)

VARIABLE DEFINITIONS

Variable names	Variable definitions
Personal problems	A three-item, four level measure representing the effects of personal factors (i.e., marriage, pregnancy or having a child) on persistence/dropout behavior. Response codes ranged from: 1= strongly disagree that specific factors will effect persistence/dropout behavior to 4=strongly agree (alpha = 0.70).
Drugs and alcohol	A single item representing drugs and alcohol as a factor effecting persistence/dropout behavior.
Academic integration	
Cumulative grade point average (GPA)	A single item measure based on student's high school grades and obtained from official school records at the end of the first semester, Feb. 1988.
Type of academic program	A single item representing student's course of study: coded 1=general or college preparatory program and 0= vocational.
Promotion/demotion status	A single item representing the student's grade level assignment a a reflection of the student's course pass/failure rate: coded 1=at grade level, 0=demote level.
Hours spent on homework	A single item measure based on the self-reported, number of hours each student spent on homework during one week with values ranging from 0 to 45 hours.

TABLE 2 (continued)

VARIABLE DEFINITIONS

Variable names	Variable definitions
Attitudes and perceptions regarding academic development	An eleven-item, four level measure representing the student's attitude and perceptions related to the student's academic development (alpha = 0.68).
Social integration School attendance	A single item measure representing the self-reported, number of days a student had been absent during the first 6 months of the current school year. The response range was 0 to 30 days.
Extracurricular activities	A two-item measure based on student's participation in the school's extracurricular activities : cided 1=participation and 0=non-participation; and the number of hours spent on extracurricular activities. Responses ranged from 1 to 30 hours per week (alpha = 0.60).
Peer relationships	A six-item, four level measure regarding the quality of a student's relationship with classmates (alpha = 0.66).
Student/teacher relationships	A seven-item, four level measure representing the quality of a student's relationship with teachers (alpha = 0.71).
Teacher/counselor relationship in a problem situation	A single-item representing a student seeking a teacher/counselor's help with a problem: coded 1=sought teacher/counselor help and 0=sought non-teacher/counselor help or no one.

TABLE 2 (continued)

VARIABLE DEFINITIONS

Variable names	Variable definitions
Commitment to stay in school	
Commitment to learning	A seven-item, four level measure representing a student's perceived importance of learning and graduating from high school (alpha = 0.68).
Institutional commitment	A five-item, four level measure representing the student's perceived importance of graduating from this particular high school (alpha = 0.80).
Persistence/Dropout behavior	A dichotomas variable indicaing persistence/dropout status coded: 1=persistence, 0=dropout

Note: All items were standardized except for individual attributes.

See Appendix A for specific questions and statements for each variable cluster.

TABLE 3

NUMBER OF DROPOUTS IN STUDY AND THE SCHOOL

	No. of Students	No. of Dropouts Mar.1988 to Nov.1988	
Student Surveys (SS) With Consent	338	29	(8.6%)
Student Surveys/No Consent	307	26	(8.5%)
Total Student Surveys	645	55	(8.5%)
Total School Enrollment (March 1988)	1610	363	(22.5%)

Number of Dropouts in Study by Grade

Grade	Dropouts SS W/Consent	Dropouts SS No/Consent
9	16	14
10	9	2
11	4	9
12	0	1
Total	29	26

TABLE 4

COMPARISON OF MULTIPLE REGRESSIONS FOR THE TOTAL SAMPLE AND EACH SUBGROUP

	Dependent Variables	
	Persistence/Dropout RSQ	School Commitment RSQ
All Subjects	.06	.40 **
Males	.14 *	.43 **
Females	.13 *	.33 **
Puerto Ricans	.13	.35 **
Mexicans	.11	.48 **
Puerto Rican Males	.33	.35 *
Puerto Rican Females	.30	.39 *
Mexican Males	.24 *	.49 **
Mexican Females	.13	.48 **

* $p < .05$
** $p < .01$

TABLE 5

STANDARDIZED REGRESSION COEFFICIENT ESTIMATES
DEPENDENT VARIABLE: PERSISTENCE/DROPOUT BEHAVIOR

Variable	All Subjects	All Males	All Females	Puerto Ricans	Mexicans
SES	.08	.09	.07	-.08	.12
Age	.01	.04	.03	.13	-.03
Gender	.01	--	--	.01	-.01
Ethnicity	-.03	-.22 **	.05	--	--
L1 & L2	.01	.17	-.09	.11	-.03
8th Grade ITBS Scores	.16 *	.07	.26 **	.28 *	.09
Overage	.01	-.03	.03	.01	.02
External Factors	-.01	.16	-.13	.09	-.02
Drugs or Alcohol	-.01	-.21 *	.08	-.12 *	-.14
Academic Integration	.05	.06	.07	-.07	.06
Social Integration	.02	.10	-.06	.14	-.06
Problem: sought teacher help	.05	-.02	.04	-.02	.95
School Commitment	.07	.21 *	-.02	.10	.28 **

*p < .05
**p < .01

TABLE 5 (continued)

STANDARDIZED REGRESSION COEFFICIENT ESTIMATES
DEPENDENT VARIABLE: PERSISTENCE/DROPOUT BEHAVIOR

Variable	Puerto Rican Males	Puerto Rican Females	Mexican Males	Mexican Females
SES	-.08	-.11	.23 *	.06
Age	.25	.10	-.03	.04
Gender	--	--	--	--
Ethnicity	--	--	--	--
L1 & L2	.22	.02	.12	-.12
8th Grade ITBS Scores	.22	.43	-.06	.32 **
Overage	-.05	.31	.06	-.03
External Factors	.34 *	-.02	.14	-.11
Drugs or Alcohol	-.15	-.42 *	-.38 **	.04
Academic Integration	-.17	.00	.15	-.05
Social Integration	.39 *	-.44 *	-.02	-.07
Problem: sought teacher help	-.22	-.01	-.06	-.09
School Commitment	.07	.31	.35 *	.18

*p < .05
**p < .01

TABLE 6

STANDARDIZED REGRESSION COEFFICIENT ESTIMATES
DEPENDENT VARIABLE: SCHOOL COMMITMENT

Variable	All Subjects	All Males	All Females	Puerto Ricans	Mexicans
SES	-.06	-.05	-.01	.01	-.07
Age	-.01	-.11	.05	-.03	-.04
Gender	-.17 **	--	--	-.14	-.13 *
Ethnicity	.08	.16 *	.01	--	--
L1 & L2	.03	.04	.05	-.02	.01
8th Grade ITBS Scores	-.06	-.09	-.01	-.09	6.86
Overage	-.06	.07	-.22 **	-.13	-.01
External Factors	-.03	-.06	-.05	-.08	-.03
Drugs or Alcohol	.13 **	.21 **	.11	.19	.17 **
Academic Integration	.24 **	.21 **	.29 **	.13	.35 **
Social Integration	.41 **	.44 **	.39 **	.49 **	.34 **
Problem: sought teacher help	.05	.10	-.01	.02	.14 *

*p < .05
**p < .01

TABLE 6 (continued)

STANDARDIZED REGRESSION COEFFICIENT ESTIMATES
DEPENDENT VARIABLE: SCHOOL COMMITMENT

Variable	Puerto Rican Males	Puerto Rican Females	Mexican Males	Mexican Females
SES	-.08	.10	-.07	-.02
Age	-.02	-.07	-.20 *	.06
Gender	--	--	--	--
Ethnicity	--	--	--	--
L1 & L2	.02	.00	-8.43	.03
8th Grade ITBS Scores	-.06	-.22	-.13	.10
Overage	.01	-.30	.13	-.15
External Factors	-.21	-.01	-.03	-.06
Drugs or Alcohol	.21	.27	.29 **	.12
Academic Integration	.04	.24	.29 **	.38 **
Social Integration	.50 **	.50 **	.34 **	.39 **
Problem: sought teacher help	.05	.03	.18 *	.08

*p < .05
**p < .01

TABLE 7

STANDARDIZED REGRESSION COEFFICIENT ESTIMATES

DEPENDENT VARIABLE A: IMPORTANCE OF LEARNING AND GRADUATING FROM HIGH SCHOOL
DEPENDENT VARIABLE B: IMPORTANCE OF GRADUATING FROM THIS PARTICULAR HIGH SCHOOL

Variable	All Subjects	
	A	B
SES	-.03	-.07
Age	-.08	.08
Gender	-.18 **	-.10 *
Ethnicity	.03	.11 *
L1 & L2	.10 *	-.05
8th Grade ITBS Scores	-.03	-.12
Overage	.01	-.11 *
External Factors	.00	-.06
Drugs or Alcohol	.09	.13 **
Academic Integration	.31 **	.09
Social Integration	.29 **	.40 **
Problem: sought teacher help	.10 *	-.02

* $p < .05$
** $p < .01$

TABLE 7 (continued)

STANDARDIZED REGRESSION COEFFICIENT ESTIMATES

DEPENDENT VARIABLE A: IMPORTANCE OF LEARNING AND GRADUATING FROM HIGH SCHOOL
DEPENDENT VARIABLE B: IMPORTANCE OF GRADUATING FROM THIS PARTICULAR HIGH SCHOOL

Variable	All Males		All Females	
	A	B	A	B
SES	.01	-.11	-.00	-.01
Age	-.13	-.06	-.09	.17 *
Gender	--	--	--	--
Ethnicity	.12	.16 *	-.06	.07
L1 & L2	.10	-.03	.12	-.05
8th Grade ITBS Scores	-.02	-.15	-.03	.02
Overage	.13	-.02	-.12	-.23 **
External Factors	-.03	-.09	.00	-.09
Drugs or Alcohol	.14	.24 **	.09	.09
Academic Integration	.27 **	.08	.38 **	.08
Social Integration	.36 **	.42 **	.23 **	.39 **
Problem: sought teacher help	.13	.05	.07	-.08

* $p < .05$
** $p < .01$

TABLE 7 (continued)

STANDARDIZED REGRESSION COEFFICIENT ESTIMATES

DEPENDENT VARIABLE A: IMPORTANCE OF LEARNING AND GRADUATING FROM HIGH SCHOOL
DEPENDENT VARIABLE B: IMPORTANCE OF GRADUATING FROM THIS PARTICULAR HIGH SCHOOL

Variables	Puerto Ricans		Mexicans	
	A	B	A	B
SES	-.00	.02	-.04	-.08
Age	-.08	.03	-.12 *	.08
Gender	-.20	-.05	-.13 *	-.09
Ethnicity	--	--	--	--
L1 & L2	.05	-.08	.10	-.10
8th Grade ITBS Scores	-.07	-.10	.04	-.04
Overage	-.05	-.17	.04	-.07
External Factors	-.12	-.02	.04	-.10
Drugs or Alcohol	.15	.17	.15 **	.13 *
Academic Integration	.15	.08	.41 **	.16 *
Social Integration	.40 **	.47 **	.21 **	.37 **
Problem: sought teacher help	.08	-.05	.18 **	.05

* $p < .05$
** $p < .01$

TABLE 7 (continued)

STANDARDIZED REGRESSION COEFFICIENT ESTIMATES

DEPENDENT VARIABLE A: IMPORTANCE OF LEARNING AND GRADUATING FROM HIGH SCHOOL
DEPENDENT VARIABLE B: IMPORTANCE OF GRADUATING FROM THIS PARTICULAR HIGH SCHOOL

Variable	Puerto Rican Males		Puerto Rican Females	
	A	B	A	B
SES	.01	-.16	.10	.08
Age	-.08	.04	-.02	-.09
Gender	--	--	--	--
Ethnicity	--	--	--	--
L1 & L2	.19	-.16	-.01	.01
8th Grade ITBS Scores	-.03	-.09	-.32	-.06
Overage	.10	-.08	-.13	-.37 *
External Factors	-.11	-.26	-.26	.22
Drugs or Alcohol	.14	.24	.26	.20
Academic Integration	.08	-.01	.31	.11
Social Integration	.46 **	.44 **	.37	.48 *
Problem: sought teacher help	.05	.04	.06	-.01

* $p < .05$
** $p < .01$

TABLE 7 (continued)

STANDARDIZED REGRESSION COEFFICIENT ESTIMATES

DEPENDENT VARIABLE A: IMPORTANCE OF LEARNING AND GRADUATING FROM HIGH SCHOOL
DEPENDENT VARIABLE B: IMPORTANCE OF GRADUATING FROM THIS PARTICULAR HIGH SCHOOL

Variable	Mexican Males		Mexican Females	
	A	B	A	B
SES	-.01	-.13	.02	-.05
Age	-.19 *	-.15	-.10	.20 *
Gender	--	--	--	--
Ethnicity	--	--	--	--
L1 & L2	.08	-.10	.14	-.10
8th Grade ITBS Scores	-.03	-.21	.07	.09
Overage	.15	.07	-.05	-.19
External Factors	.01	-.08	.04	-.14
Drugs or Alcohol	.17	.37 **	.20 *	-.01
Academic Integration	.36 **	.12	.44 **	.13
Social Integration	.30 **	.30 **	.16	.46 **
Problem: sought teacher help	.23 *	.07	.09	.02

* $p < .05$
** $p < .01$

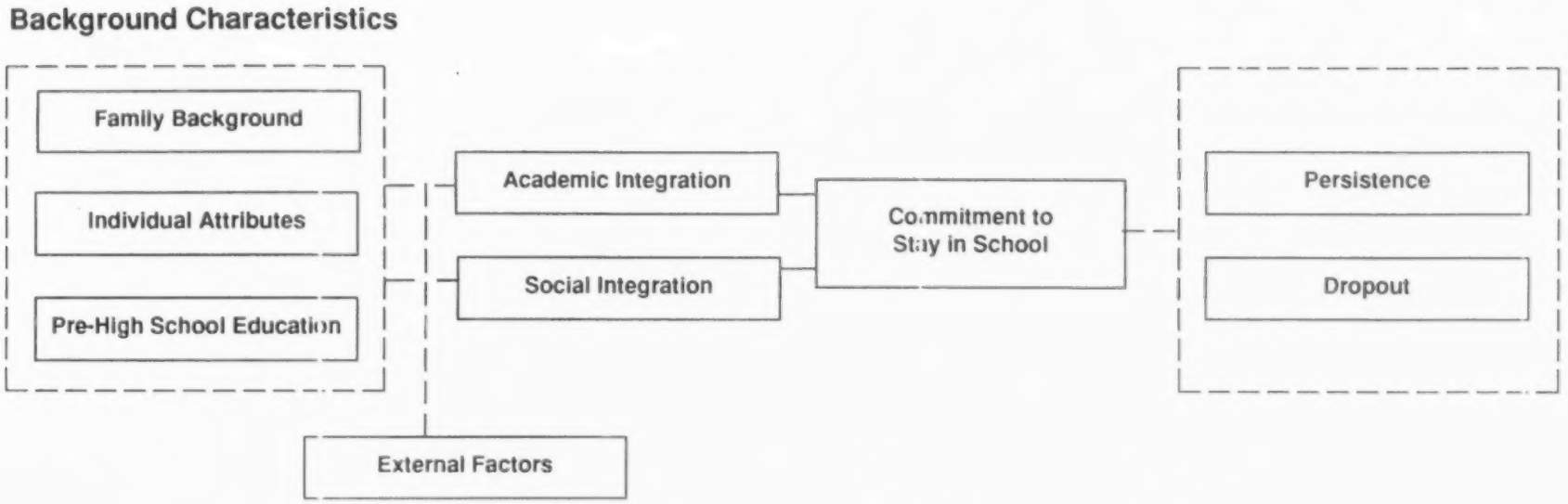

Figure 1. Schematic for persistence/dropout behavior in high school.
Adapted from Tinto's conceptual schema for dropout from college (1975).

APPENDIX A

CATEGORIZATION OF SURVEY AND DATA ITEMS

I. BACKGROUND CHARACTERISTICS

Family Background/Socio-economic Status

17. My father is employed. (check one)
    1) Full-time
    2) Part-time
    3) Not at all
    4) Don't know

18. My mother is employed. (check one)
    1) Full-time
    2) Part-time
    3) Not at all
    4) Don't know

19. I get a free lunch in school. YES NO

Individual Attributes

4. Age____

6. Sex Male/Female

8. I consider myself a (check one)
   Mexican/Mexican American/Puerto Rican/Cuban/Latin/
   Central American/South American/Black/White/
   Other_____.

9. The language I know best is (check one)
   English/Spanish/Other

10. I also speak a second language (check one)
    English/Spanish/Other/None

Pre High School Education

1. ITBS Reading score _____(school records)
2. ITBS Math score_____(school records)

5. Date of Birth __ __/__ __/__ __
   Month Day Year
   Overage/Not Overaged when entering high school.

II. EXTERNAL FACTORS

The following statements all have a 4 response scale except for No. 49.
STRONGLY DISAGREE-DISAGREE-AGREE-STRONGLY AGREE

Family Related

20. I may not graduate because I have to work.

48. I may not graduate because of family problems.

Gang Related

49. I belong to a gang. YES NO

Personal Problems

30. I may not graduate because I am married. (NA/Does not apply)

38. I may not graduate because I am pregnant. (NA/Does not apply)

43. I may not graduate because I have a child. (NA/Does not apply)

Drugs or Alcohol

34. I may not graduate because of drugs or alcohol.

III. ACADEMIC INTEGRATION

5. Cumulative Grade Point Average(GPA) retreived from school records.

7. Promotion/Demotion Status (determined from school records)

20. How would you describe your course of study at this high school.

General Education _____
Vocational Education _____
College Preparatory _____

23. How many hours do you spend on homework during the week? _____ hours each week

Attitudes and perceptions regarding academic development:

The following statements all have a 4 response scale.
STRONGLY DISAGREE-DISAGREE-AGREE-STRONGLY AGREE

8. I am proud when I get good grades.
11. I'm not sure what my teachers want me to do in class.
12. I try hard in class but I still don't do as well as I would like.
13. I'm not sure what teachers want on a test.

21. Elementary school prepared me for high school.
24. I work hard for my grades.
26. School work is harder for me than most of my classmates.
33. If I graduate it's because I'm smart.
41. I usually get the kind of grades that I deserve.
45. I may not graduate from high school because I have failed too many courses.
46. I feel badly when I fail.

IV. SOCIAL INTEGRATION

21. Do you belong to any clubs, sports teams, bands, etc? (check all that apply)
    Sports team/athletics
    Band/orchestra
    Chorus
    School club
    School council
    Other activities, specify_____
    None

22. How many hours would you usually spend after school each week on the activities you checked?
    (Write "0" if you checked none for No. 21)
    _____hours each week

25. Since school started last October, I have been absent _____days. (give the number of days)

28. The last time I had a problem in school the person I went to see was: (check one)

    teacher
    counselor
    assistant principal
    principal
    teacher aide
    friend
    other
    no one
    I have not had a problem

The following statements all have a 4 response scale except for No. 50.
STRONGLY DISAGREE-DISAGREE-AGREE-STRONGLY AGREE

1. I have close friends in school.
2. I feel safe in school.
3. I get along with most of my teachers.
5. I can talk to with my friends about my problems.
7. My best friends go to my high school.
9. Most of my friends will graduate from high school.

10. Most of my teachers understand me.
15. I am able to find help in school if I have a problem.
18. I understand the rules of the school.
23. Most of my teachers like me.
25. Most of my teachers are sensitive to my language and culture.
50. I have one good friend in school. YES/NO

V. COMMITMENT TO STAY IN SCHOOL

A student's perceived importance of learning and graduating from high school.

The following statements all use a 4 response scale.
STRONGLY DISAGREE-DISAGREE-AGREE-STRONGLY AGREE

28. I will graduate from high school.
29. It is important to me that I graduate from high school.
31. I expect to go to college.
32. High school is interesting.
35. I'll feel badly if I don't finish high school.
39. High school is preparing me for college.
42. High school prepares me for life.

A student's perceived importance of graduating from this particular high school.

The following statements all use a 4 response scale.
STRONGLY DISAGREE-DISAGREE-AGREE-STRONGLY AGREE

16. I believe this is a good high school.

17. I would be proud to graduate from this high school.

19. I feel like I belong in high school.

37. I am proud to say that I go to Wells Community Academy.

40. I would rather go to another high school.

VI. PERSISTENCE/DROPOUT BEHAVIOR

8. Still enrolled December 1, 1988 or graduated June, 1988 (school records)

OR

Not enrolled December 1, 1988 (school records)